Rehabilitation of *Ergalatax martensi* (Schepman, 1892) (Gastropoda: Muricidae), senior synonym of *Ergalatax obscura* Houart, 1996, and description of *Ergalatax junionae*, new name for *Morula martensi* Dall, 1923

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ABSTRACT

Ergalatax junionae nomen novum is proposed as replacement name for *Morula martensi* Dall, 1923, from the Gulf of Oman and the Persian Gulf. The latter name is a junior secondary homonym of *Pentadactylus martensi* Schepman, 1892, from the Red Sea, of which *E. obscura* Houart, 1996, is here considered as a junior synonym. *Ergalatax junionae* nomen novum is compared with *Ergalatax martensi* (Schepman) and *E. margaritiicola* (Broderip, 1833). The geographical distribution of *E. junionae* and *E. martensi* is updated and the introduced Mediterranean species is identified as *E. junionae*.

Additional Keywords: Mollusca, Gastropoda, Muricidae, Gulf of Oman, Persian Gulf, Red Sea, Mediterranean Sea, homonymy, synonymy, new name.

INTRODUCTION

Some years ago (Houart, 1996: 13), I described *Ergalatax obscura*, a muricid from the Red Sea. Shortly after that paper was published, R. G. Moolenbeek (in litt.) told me about a name introduced by Schepman (1892), *Pentadactylus martensi*, which he also described from the Red Sea. Having then examined a syntype of that species from ZMA (Figure 14), I concluded that *P. martensi* Schepman, 1892, was a junior synonym of *Ergalatax margaritiicola* (Broderip, 1833).

However, after recently requesting additional information about the other syntypes of *P. martensi* in NMNL, I received digital images that illustrate the remaining three specimens (Figures 18–23), among them the 17 mm long specimen that probably served for the description (Figures 18–19). Those syntypes are undoubtedly conspecific with *E. obscura*, while the ZMA syntype represents *E. margaritiicola*.

For many years (Houart, 2001), I had identified an introduced eastern Mediterranean species as *Ergalatax obscura* Houart, 1996 [= *E. martensi* (Schepman, 1892)]. However, this concerns yet a third species, which occurs primarily in the Gulf of Oman and in the Persian Gulf. The species was first wrongly illustrated as *Purpura (Ricinula) siderea* Reeve (a buccinid) by von Martens (1874: 95, pl. 5, fig. 49). Later, Dall (1923: 304) provided a new name for that species, naming it *Morula martensi*. Unfortunately, both species, *Pentadactylus martensi* Schepman, 1892, and *Morula martensi* Dall, 1923, are now included in *Ergalatax*, and Dall's name becomes *ipso facto* a junior secondary homonym and needs to be replaced.

I personally mixed both species because of their close relationship and the presence of some related forms (compare Figures 30 and 35). First (in litt.), I provisionally identified the Mediterranean specimen as *E. martensi* (Dall, 1923), but afterwards I erroneously considered it as conspecific with *E. obscura* [= *E. martensi* (Schepman, 1892)] from the Red Sea and the Gulf of Aden (Houart, 1996: 12).

Abbreviations used herein are: AMS: Australian Museum, Sydney, Australia; MNHN: Muséum national d'Histoire naturelle, Paris, France; NMNL: National Museum of Natural History Naturalis, Leiden, The Netherlands; RH: collection of the author; ZMA: Zoologisch Museum, University of Amsterdam, The Netherlands; ZMB: Museum für Naturkunde der Humboldt Universität zu Berlin, zoologisches Museum, Germany. Terminology for shell spiral cords (after Merle, 1999 and 2001) given in Figure 1.

SYSTEMATICS

Subfamily Muricoidea Rafinesque, 1815
Family Muricidae Rafinesque, 1815
Subfamily Ergalataxinae Kuroda, Habe and Oyama, 1971
Genus *Ergalatax* Iredale, 1931

Type Species: *Ergalatax recurrens* Iredale, 1931, Australia (Figure 17) [?= *E. contracta* (Reeve, 1846)] by original designation.

TELEOCONCH WHORLS	
SP:	Subsutural cord
IP :	Infrasutural primary cord (primary cord on shoulder)
adis :	adapical infrasutural secondary cord (shoulder)
abis :	abapical infrasutural secondary cord (shoulder)
P :	Primary cord
s :	secondary cord
t	tertiary cord
P1 :	Shoulder cord
P2-P6 :	Primary cords of the convex part of the teleoconch whorl
s1-s5 :	secondary cords of the convex part of the teleoconch whorl
example: s1 = secondary cord between P1 and P2; s2 = secondary cord between P2 and P3, etc.	
SIPHONAL CANAL	
ADP :	adapertural primary cord on the siphonal canal
MP	median primary cord on the siphonal canal
APERTURE	
ID:	Infrasutural denticle
D1 to D5:	Abapical denticles

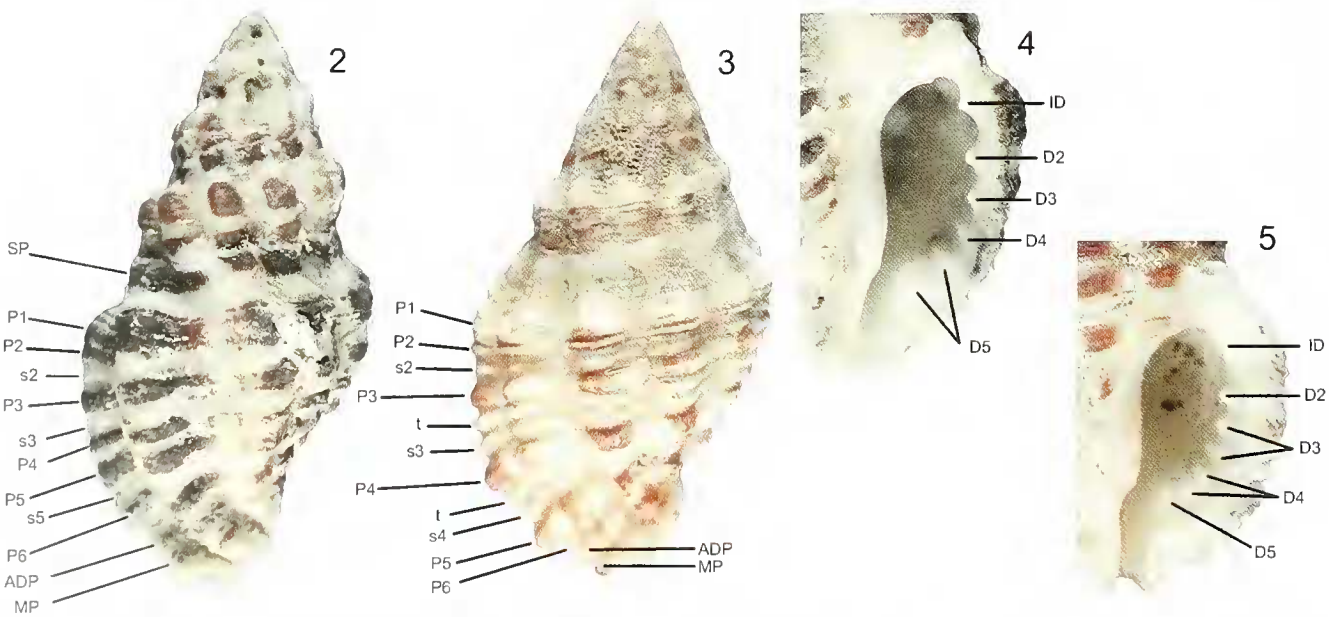
Figure 1. Terminology used to describe the spiral cords (after Merle, 1999 and 2001) (sporadic sculpture is shown in parentheses).

Ergalatax martensi (Schepman, 1892)
(Figures 3, 5, 6, 11, 13, 18–30, 46)

Pentadactylus (Morula) martensi Schepman, 1892: 104.
Cronia martensi Dall.—Sharabati, 1984: pl. 19, fig. 9, 9a, 9b; Singer and Mienis, 1991b: 58, fig. 19; Coulombel, 1994: 73, text fig. (not *Morula martensi* Dall, 1923); Verbinnen and Dirkx, 2000: 69, fig. 9 (not *Morula martensi* Dall, 1923).
Drupella rugosa.—Singer and Mienis, 1991a: 18, fig. 6 (not *Murex rugosus* Born, 1778).
Ergalatax obscura Houart, 1996: 13, figs 1, 3–6; Houart, 2001: 108 (in part), figs 17, 31, 106 and 449 only; Heiman and Mienis, 2003: 22–23 (text fig.).
Not *Morula martensi* (Schepman, 1892) –Tan, 1995: 160, figs 52, 192 g, h (= *Ergalatax junionae* nom. nov.).
Not *Ergalatax obscura*.—Houart, 2001 (in part): 108 (in part), figs 31 and 450–451 only; Delongueville and Scaillet, 2007: 57, fig. 31 (= *Ergalatax junionae* nom. nov.)

Description: Shell medium sized for the genus, up to 25.5 mm in length at maturity. Length/width ratio 1.39–1.92. Heavy, stout. Spire high with 3+ protoconch whorls (tip partially broken), and up to 7 broad, strongly shouldered teleoconch whorls. Suture adpressed. Protoconch conical, acute, whorls smooth. Axial sculpture of teleoconch whorls consisting of high, rounded, nodose ribs: 10 or 11 from first to penultimate whorl, 6 to 8 on last whorl, rarely 5 or 9. Spiral sculpture of high, strong, primary, secondary and tertiary cords. Last teleoconch whorl with adis, IP, abis, P1, immediately followed by small P2, s2, P3, (t), s3, P4,(t), s4, P5, (s5), P6, ADP, MP. P1 and P2 small, P3, P4 and P5 similar in strength, P6 very small or obsolete.

Sculpture forming high, nodose knobs at intersection of spiral cords and axial ribs. Aperture relatively small, ovate. Columellar lip with 2 or 3 weak knobs abapically, rim adherent. Anal notch broad, moderately deep. Outer lip weakly crenulate, with 7 strong elongate denticles within [ID, D2 (D1-D2 fused), D3 split, D4, D5 split]. Siphonal canal short, broad, broadly open. Milky white,



Figures 2–5. *Ergalatax* species. Spiral sculpture and apertural denticles. **2, 4.** *Ergalatax junionae* nomen novum (lectotype ZMB). **3, 5.** *E. martensi* (Schepman, 1892) (Red Sea, RH).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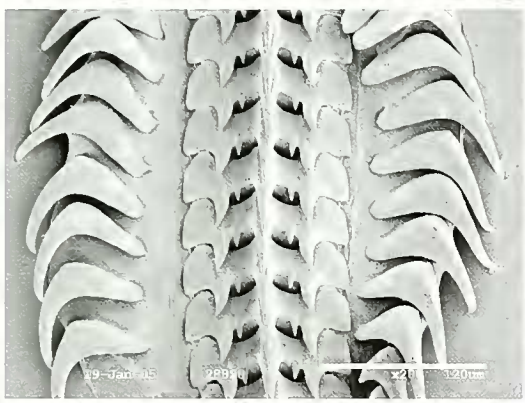
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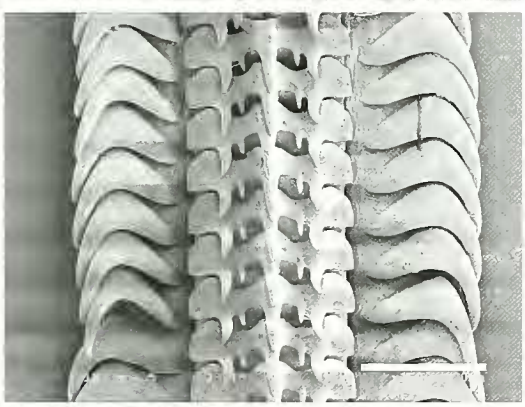
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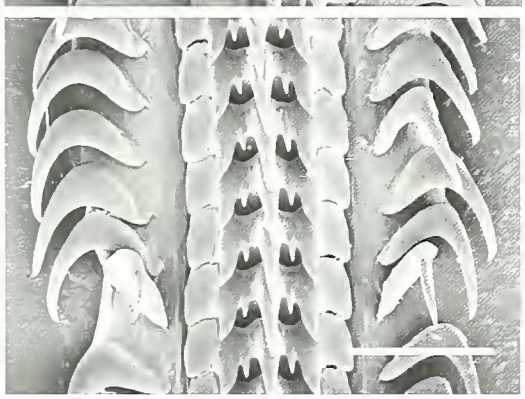
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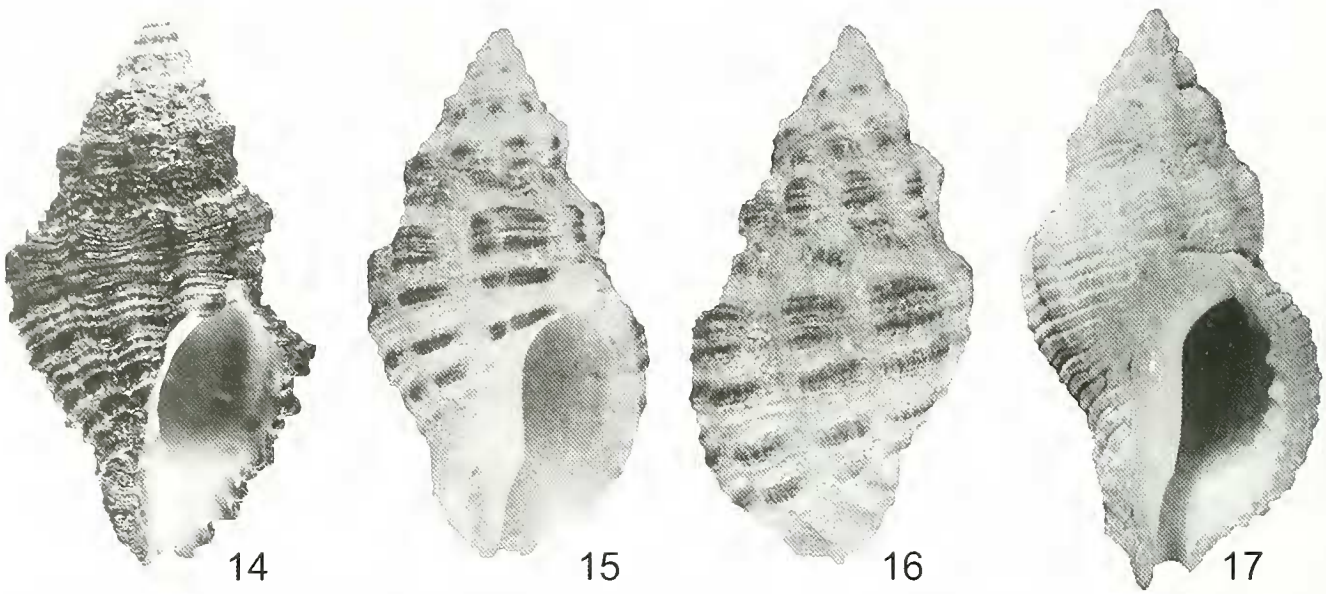
Figures 6–13. *Ergalatax* species. **6.** Radula of *Ergalatax martensi* (Schepman, 1893), Gulf of Aden. Scale bar = 150 µm. **7.** Radula of *E. junionae* nomen novum, Gulf of Iskenderun, Turkey. Scale bar = 120 µm. **8.** Radula of *E. margariticola* (Broderip, 1833), Palau. Scale bar = 120 µm. **9–10.** Radula of *E. contracta* (Reeve, 1846). **9.** Aden, juvenile specimen. Scale bar = 60 µm. **10.** Korea, large adult specimen (lateral denticles worn). Scale bar = 150 µm. **11.** Operculum of *E. martensi* Scale bar = 1 mm. **12.** Operculum of *E. junionae*. Scale bar = 1 mm. **13.** Protoconch of *E. martensi*. Scale bar = 0.5 mm. (Figures 6–11, photos A. Warén).



Figures 14–17. *Ergalatax* species. **14.** *Ergalatax margariticola* (Broderip, 1833). Lectotype of *Pentadactylus (Morula) martensi* Schepman, 1893. "Red Sea, coll. Forskål", ZMA Moll. 2.93.005, 24.8 mm. **15–16.** *Ergalatax junionae* nom. nov. Lectotype of *Morula martensi* Dall, 1923, ZMB 21596, 21.4 mm. **17.** *Ergalatax recurrens* Iredale, 1931. Holotype AMS C57761, 25.5 mm (photo courtesy E. H. Yokes).

creamy white, or tan, usually with some light to dark brown colored spiral cords on shoulder and on more prominent nodes. Aperture cream or pale yellow within.

Operculum ergalataxine (Fig. 11), D-shaped with lateral nucleus in lower right.

Radula (Fig. 6) with a rachidian bearing a long, narrow central cusp, a small, narrow, triangular lateral denticle and a broad, long lateral cusp on each side. Sickle-shaped lateral teeth broad at base and narrow at their end.

Type Material Examined: 3 syntypes NMNL, Red Sea: RMNH.MOL.57165, here selected as lectotype and paralectotypes, 1 syntype ZMA Moll. 2.93.005, Red Sea, here selected as paralectotype; *Ergalatax obscura* Houart, 1996: Perim, Strait of Bab el Mandeb, holotype and 4 paratypes MNHN, 1 paratype RH; Djibouti, Obock, Gulf of Aden, 9 paratypes MNHN; Yemen, Aden, 4 paratypes MNHN, 1 paratype RH.

Othe Material Examined: Djibouti: Obock, Gulf of Aden, 2 RH; Gulf of Aden: 2, RH. **Red Sea:** (no other data), 1 RH; Massawa, Taulud Is., 1 RH; Egypt, Sinai, under stones at low tide, 10 RH; Egypt, Sinai, Sharm El Sheik, 1 RH; Egypt, Sinai, Shark's Bay (marsa umm umreihha), under stones, low tide, 2 RH. Gulf of Aqaba: Israel, Eilat, 0.5–1.0 m, 3 RH; Gulf of Aqaba, Israel, Eilat, under stones, 1–2 m, 4 RH.

Distribution: From the Gulf of Aden to Eilat, Gulf of Aqaba, 0–2 m, on and under stones (Fig. 46).

Remarks: For a comparison with *Ergalatax junionae* see that species below.

Ergalatax junionae nomen novum
Figures 2, 4, 7, 12, 15–16, 31–40, 46)

Morula siderea Reeve.—von Martens, 1874: 95, pl. 3, fig. 49 (not *Ricinula siderea* Reeve, 1846).

Morula martensi Dall, 1923: 304, new name for *Morula siderea* von Martens, 1874, not Reeve, 1846.

Cronia konkanensis.—Bosch and Bosch, 1982: 95, text fig; Smythe, 1982: 60, pl. 1, fig. i; Bosch and Bosch, 1989: 60, text fig. (not *Ricinula konkanensis* Melvill, 1893).

Cronia cf. *konkanensis*.—Giunchi and Tisselli, 1995: 8, text figs.

Ergalatax martens.—Buzzurro, Engl and Tümtürk, 1995: (no pag.), text fig.; Engl, 1995: 46, fig. 10.

Cronia cf. *konkanensis*.—Bosch et al, 1995: 121, fig. 480.

Morula martensi (Schepman, 1892).—Tan, 1995: 160, figs 52, 192 g, h (not *Pentadactylus (Morula) martensi* Schepman, 1892).

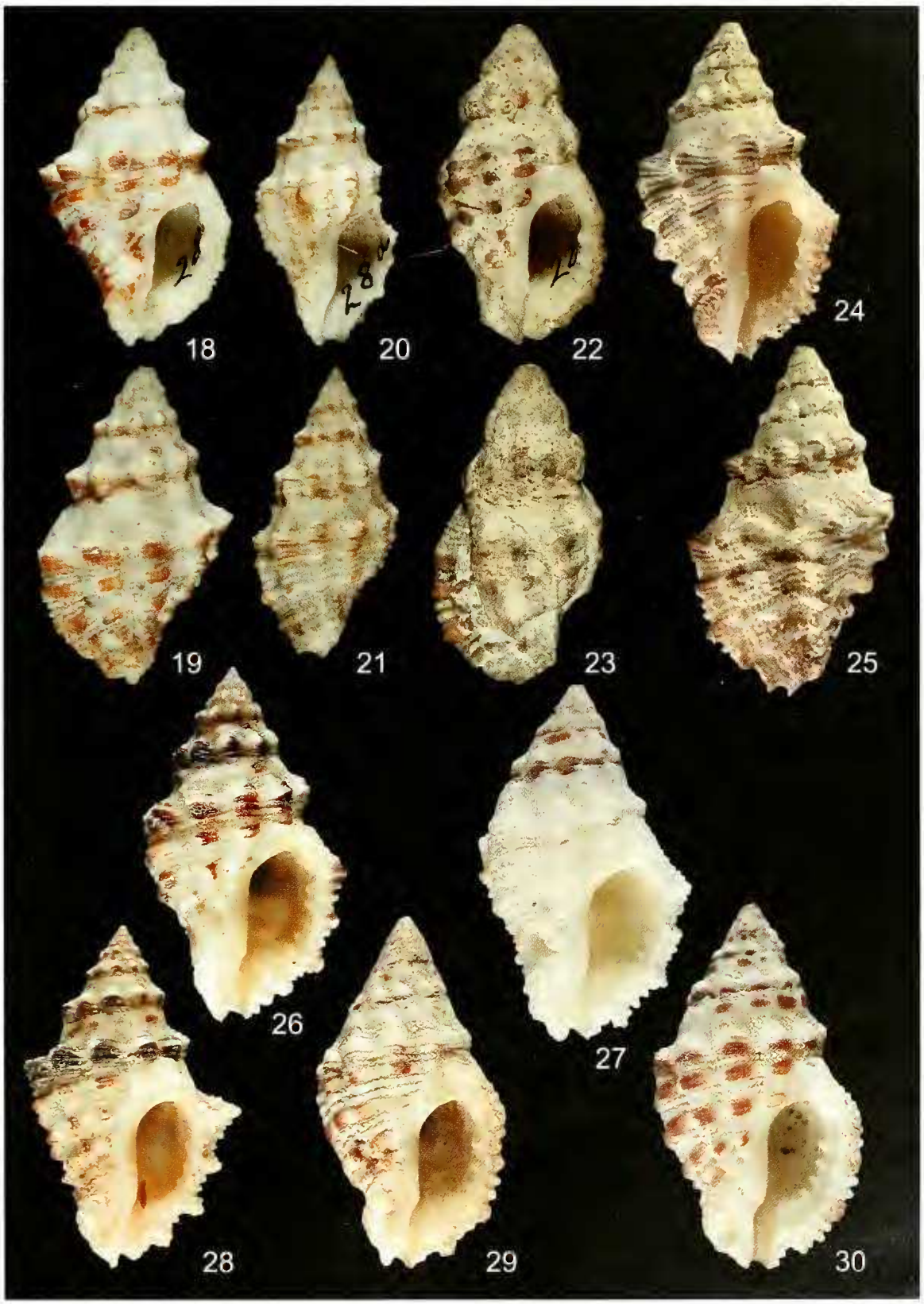
Ergalatax obscura.—Houart, 2001: 108 (in part), figs. 450–451 only; Delongneville and Scaillet, 2007: 57, fig. 31 (not *Ergalatax obscura* Houart, 1996).

Description: Shell medium sized for the genus, up to 29 mm in length at maturity. Length/width ratio 1.91–2.03. Slender, lanceolate, heavy, nodose. Shoulder weakly sloping, concave.

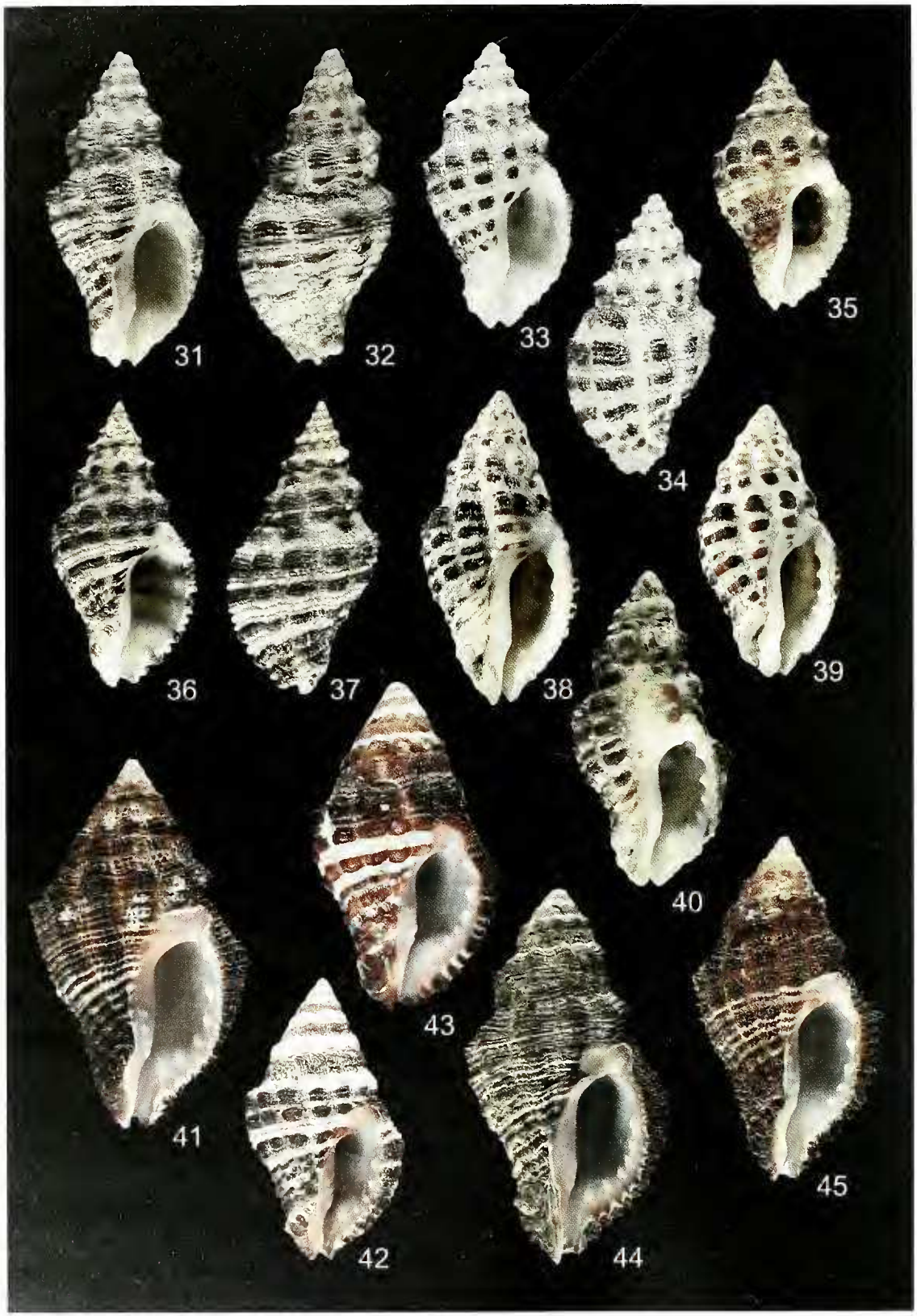
White or creamy white with dark brown or blackish colored primary spiral cords and occasionally s2 or s3. Aperture glossy white.

Spire very high with 3.5 protoconch whorls and teleoconch up to 7 weakly convex, strongly shouldered, nodose whorls. Suture adpressed. Protoconch small, conical, acute; terminal lip raised, of sinusigeral type.

Axial sculpture of teleoconch whorls consisting of high, strong, broad, nodose ribs and erratically placed strong varices. Last teleoconch whorl with 8–11 ribs, occasionally with one or two erratically placed, broad varices. Spiral sculpture of high, strong, nodose and squamose



Figures 18–30. *Ergalatax martensi* (Schepman, 1892). **18–23.** Lectotype and paralectotypes RMNH.MOL. 57165 (photo J. Goud). **18–19.** 17.4 mm; **20–21.** 15.7 mm; **22–23.** 17.3 mm. **24–25.** Holotype of *E. obscura* Houart, 1996. Perim, Strait of Bab el Mandeb. MNHN 0159. 24.2 mm (photo MNHN). **26.** Eilat, Israël, RH, 20.8 mm; **27.** Obock, Gulf of Aden, RH, 21.6 mm; **28.** Eilat, Israël, RH, 25.1 mm; **29.** Red Sea (no other data), RH, 21.4 mm; **30.** Aden, Gulf of Aden, RH, 21 mm.



Figures 31–45. *Ergalatax* species. **31–40.** *Ergalatax junionae* nomen novum. **31–33.** Doha, Wahra, Qatar, RH. **31–32.** 26.5 mm; **33–34.** 22.9 mm; **35.** Yalikent, Iskenderun, Turkey, RH, 17.2 mm; **36–37.** Lebanon, Bay of Jounieh, 19.6 mm; **38–40.** Iskenderun, Bay of Iskenderun, Turkey, RH. **38.** 25.6 mm; **39.** 22.2 mm; **40.** 22.9 mm. **41–45.** *Ergalatax margariticola* (Broderip, 1833). **41.** Raroia , Tuamotu Archipelago, RH, 28.4 mm; **42.** Kai Is., Molluccas, RH, 20.5 mm. **43.** South of New Caledonia, RH, 23.7 mm; **44.** Park Beach, East coast of Singapore, RH, 30.4 mm; **45.** Kwajalein Atoll, RH, 25.9 mm.

primary, secondary and tertiary cords. Shoulder of last teleoconch whorl with broad SP, adis, IP, abis, P1, P2, s2, (t), P3, s3, P4,(s4), P5, (s5), P6, ADP, MP: P1 and P2 narrow, P3, P5 and P6 broad, similar in strength, P4 smaller.

Aperture large, narrow, ovate; columellar lip smooth, entirely adherent, with low parietal tooth at adapical extremity; anal notch deep, broad; outer lip weakly erect, with ID, D2-D5. ID largest, broad; D2-D4 decreasing in strength abapically, D5 split; denticles elongate within aperture. Siphonal canal short, broad, dorsally recurved, broadly open.

Operculum (Fig. 12) dark brown, D-shaped, with lateral nucleus in lower right; attached surface with about 8 growth lines and broad, callused rim, about 30–40 % of opercular width.

Radula (Fig. 7) with a rachidian bearing a long, slender central cusp, a small, short lateral denticle and a broad, long lateral cusp on each side. Lateral teeth sickle-shaped, with broad base and narrow end.

Type Material Examined: *Morula martensi* Dall, 1923, lectotype (selected by Houart, 1996) and 6 syntypes ZMB 21596.

Other Material Examined: Persian Gulf: Kuwait, Kuwait City, 4 RH; Qatar, Doha, under rocks, 30 RH; Sharjah, 25°20′ N, 55°21′ E, on rocks, 4 RH; Abu Dhabi, 0.5–1.0 m, 3 RH. Gulf of Oman: Al Hamra, near Qurm, 10 km NW of Muscat, 16 RH; Al Bustan, under rocks, 1 RH. Lebanon: Beirut, harbour entrance, breakwater, max. 15 m, 2 RH; Bay of Jounieh (N), 10–25 m, 2 RH; Batroun, 1–4 m, under stones, 2 RH. Turkey: Gulf of Iskenderun, Iskenderun, under rocks, harbor, 1 m, 8 RH; Kale, beach, 6 RH; Yumurtalik, rock pools, 6 RH; Yalikent, shallow water, on rocks, 1 RH; Bay of Antalya, 6 km off Kemer, 36°39′ N, 30°33′ E, on rocks with mussel banks, 0.5–1.0 m, 7 RH; Fethiye-Oludeniz, on rock at 2 m, 1 RH.

Distribution: Gulf of Oman, Persian Gulf and eastern Mediterranean Sea, intertidal to 4 m, on and under rocks and stones (Figure 46).

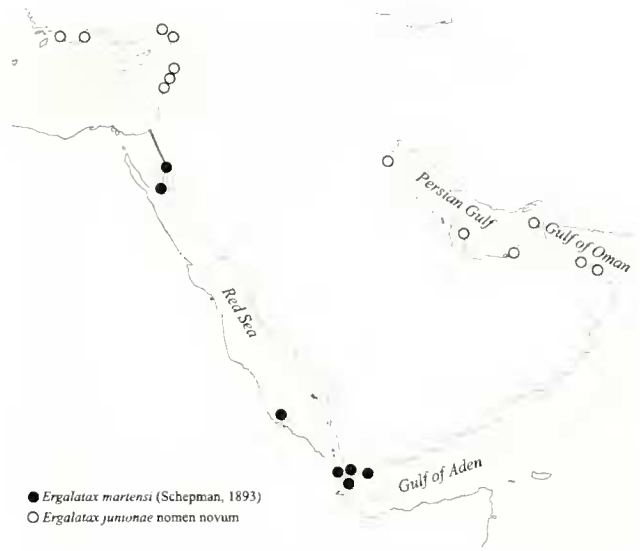


Fig. 46. Distribution of *Ergalatax martensis* and *E. junionae*.

Etymology: This species is named in honor of Mrs. Marie-Louise Buyle-Junion (1916–2003), former librarian of the Belgian Malacological Society. She was one of the mainstays of the Society, together with her husband, Jean Buyle.

Remarks: Ships docking at oil terminals in the Gulf of Iskenderun (eastern Turkey) could have introduced the species into the eastern Mediterranean Sea. As noted by Delongueville and Scaillet (2007), the transport via ship hulls or ballast water may be suspected.

The shell morphology of some specimens of *E. junionae* (Fig. 35) is nearly the same to *E. martensi* (Fig. 30), however *E. martensi* differs in having a more strongly shouldered, broader shell, and a yellowish aperture instead of white, with 7 denticles within instead of 6 in *E. junionae*. Moreover, the spiral cords differ in number and strength, as described above and illustrated in Figures 2–5. Twenty-five specimens of *E. martensi* and a few more of *E. junionae* were examined to confirm the stability of these differences.

Ergalatax martensi usually has 6–8 axial ribs on the last teleoconch whorl, rarely 5 or 9, compared to *E. junionae* which bears 8–11 ribs and varices on the last whorl.

Ergalatax margariticola (Figures 8, 14, 41–45), a very common Indo-West Pacific species is also related to *E. junionae*, however it is generally stouter and broader, with a wider shoulder, a more squamose spiral sculpture, more uniformly colored shell and different aperture color, being bluish-white, occasionally with a tinge of pink or mauve on the columellar lip *vs.* completely white in *E. junionae*. The shell morphology and color of *E. margariticola* are highly variable, however it is always easily distinguishable from *E. junionae* by one or more differences cited above.

The three species are related to the ergalataxine *Ergalatax contracta* (Reeve, 1845) (Figures 9–10), a probable senior synonym of *Ergalatax recurrens* Iredale, 1931 (Fig. 17), the type species of *Ergalatax*.

Buzzurro, Engl and Tümtürk (1995) were the first to mention the presence of *Ergalatax junionae* [as *Ergalatax martensi* (Dall, 1923)] in the eastern Mediterranean Sea.

Tan (1995:147) in his Ph D. thesis also selected a lectotype for *Morula martensi* Dall, 1923. However, he designated a specimen of *Ergalatax margariticola* (Tan, in litt.) from Kingsmill Is (USNM 52472). Nevertheless, this designation being published in a thesis that does not satisfy Articles 8.1.2 and 8.1.3 of the International Code of Zoological Nomenclature, it is not available as such.

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